



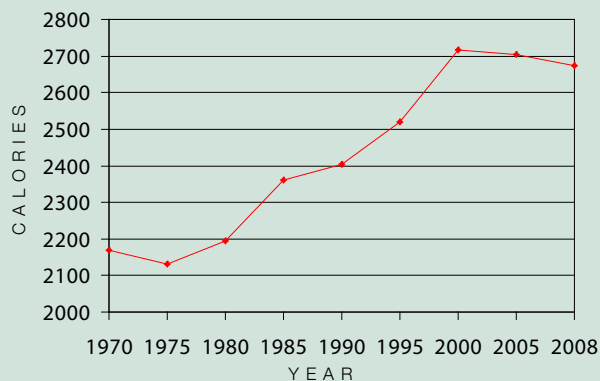
Get the Facts on High-Fructose Corn Syrup

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What is high-fructose corn syrup? HFCS is a caloric sweetener that was introduced in the 1970s. It is made by processing corn syrup to increase the level of fructose, usually to between 42% and 55% of the total sugar, with the balance being glucose, and is comparable in sweetness to sucrose (table sugar). Because HFCS is much less expensive to produce, it has become a common replacement for sucrose in many foods and beverages.

Why is there a concern about HFCS? The increase in HFCS intake coincided with the overall increase in all calories consumed by Americans in the years that followed. This rise in calories is believed to correlate with the national rise in body weight and obesity in the United States. Public health guidelines recommend that Americans limit their intake of calories, especially from foods that have minimal to no nutritional benefit.

Increase in Calories from 1970-2008



Source: USDA ERS Data last updated 2/1/2010. Average daily per capita calories from US Food Availability, adjusted for loss from spoilage and other waste.

Is there a difference between HFCS and sucrose? Sucrose and HFCS are very similar in composition. Sucrose is approximately 50% fructose and 50% glucose while HFCS is closer to 55% fructose and 45% glucose. For this reason, human studies looking at both sweeteners in relation to obesity have shown comparable results. Both provide 4 calories per gram of carbohydrate.

Both prompt a similar rise in blood glucose and insulin levels in the research studies. Both trigger similar changes in the body's appetite regulators. Based on current research, it appears HFCS and sucrose have a similar impact on body weights.

What about other sweeteners? Sweeteners such as honey and fruit juice concentrates are similar to sucrose and HFCS in composition and body response. However, sweeteners that are 100% fructose alone, also known as crystalline fructose, do appear to have a connection with potential increases in blood triglycerides – a risk factor for atherosclerosis and possibly other conditions like diabetes and gout. Crystalline fructose can be found in many health drinks and flavored "sports" water drinks.

What about HFCS in flavored milk? In contrast to empty-calorie foods and beverages, flavored milk is very nutrient-rich for the amount of HFCS calories. Studies have shown that children and teens who drink flavored milk do not weigh significantly more than their peers who drink white milk. Flavored milk drinkers do, however, consume closer to the recommended intake of important nutrients like calcium and vitamin D, because the flavor encourages greater milk consumption.

THE BOTTOM LINE: If we have limited discretionary calories to spend, it appears wiser to spend them on more nutrient-rich foods, like flavored milk, and to limit intake of sweetened foods and beverages with minimal nutrient content.

Note: Keep in mind that a food label for a dairy product reports the natural sugar found in milk (lactose) as part of the sugar content listed. This amounts to 12 grams of sugar naturally found in 8 oz. of milk. The additional amount of sugar listed would be what is added (every 4 grams = 1 tsp. added sugar).

Any information provided is not intended to diagnose, treat, cure, or prevent any disease, or to give medical advice. Always consult your family health practitioner before altering your personal health regimen.



Fulgoni V. "High-Fructose Corn Syrup (HFCS): Everything You Wanted to Know, but Were Afraid to Ask." Am J Clin Nutr Dec 2008;88(6):1715S.

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White SJ. "Straight talk about high-fructose corn syrup: What it is and what it ain't." Am J Clin Nutr Dec 2008;88(6):1716S-1721S.

